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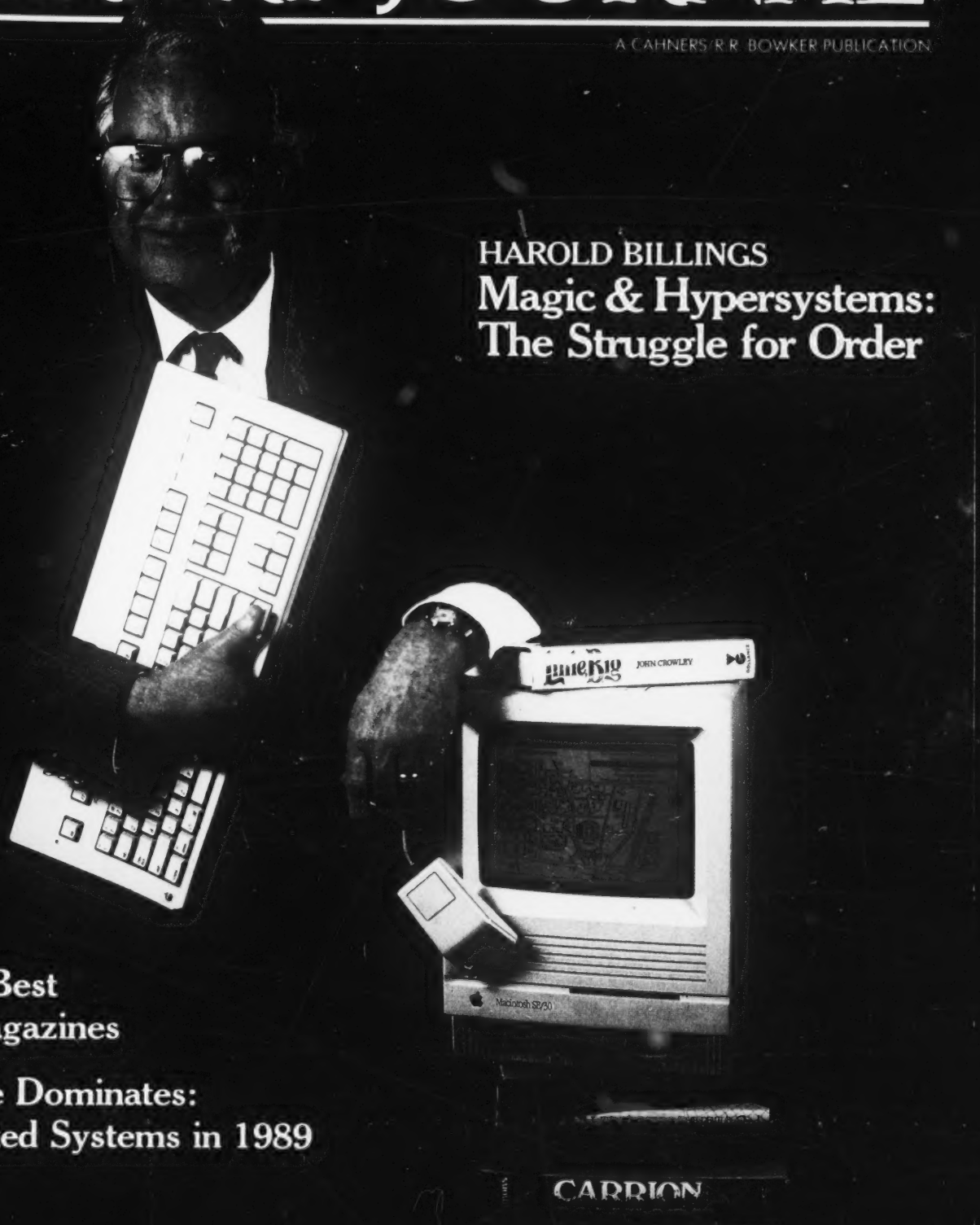
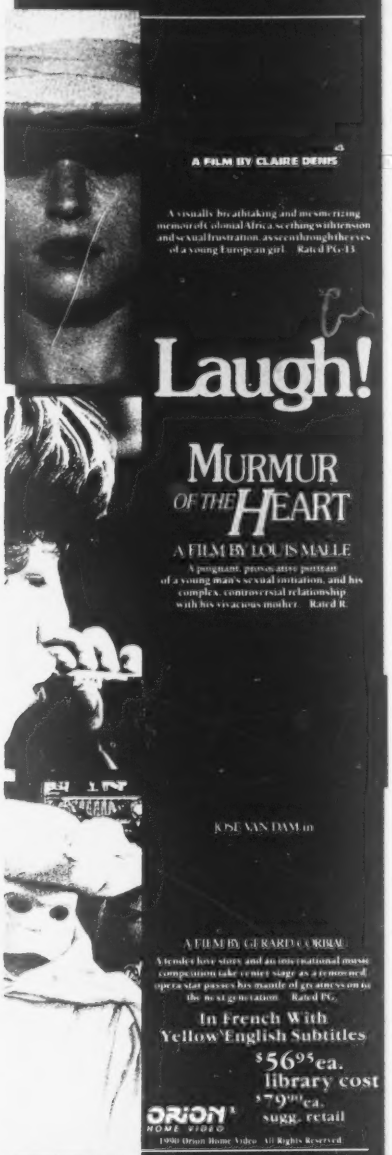


HAROLD BILLINGS
Magic & Hypersystems: The Struggle for Order

The 16 Best New Magazines

Software Dominates: Automated Systems in 1989

Educate, Enrich & Entertain
Your Library Patrons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PHOTOGRAPH BY KEVIN VANDIVIER

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LIBRARY MARKET OUTLOOK

BY DEBORAH SELSKY

Government Spending on Libraries Increased 3.8 Percent in 1988

OF THE $4.5 billion in revenue received by public libraries in 1988, 76 percent came from local governments, seven percent came from state governments, and one percent came from the federal government. The remaining 16 percent was a combination of gifts, donations, fees, and other sources. As the major source of revenue for libraries, the federal, state, and local governments and their financial situations are of importance to libraries.

The "new federalism" policies of the Reagan era (the federal government's withdrawal of participation in local affairs) are evident in the revenue statistics for public libraries. From 1987 to 1988, for example, overall government spending on public libraries increased 3.8 percent to a total of $3.8 billion.

The federal government's contribution to public libraries, however, declined 25 percent to $275 million. This left state and local governments to bear a larger share of the burden for funding public libraries. State government spending increased 5.2 percent to total $303 million in 1988, while local government expenditures increased 7.1 percent to nearly $3.2 billion.

Local governments not only bear the largest share of public library costs (they were responsible for 85 percent of total government expenditures in 1988), but their burden continues to increase. As this occurs, the ability of the local tax base to bear this burden becomes an increasingly important issue for public libraries.

Regionally, the level of local government commitment to public libraries varies. In some states, the local government supplies as little as 61 percent of library revenues.

In terms of population, all levels of government spent an average $14.24 per capita on libraries in 1988.

In the South, however, spending was only $10.55 per capita, while it reached $17.15 per capita in the West. Individual states ranged as high as $35.19 in Alaska and as low as $4.44 in Mississippi.

Measured against personal income, government spending on libraries was, once again, highest in the West and lowest in the South. The U.S. average in 1988 was 93¢ spent on libraries for every $1000 earned in personal income. The West registered $1.07, while the South showed only 77¢.

Certainly, there is a close correlation between government revenues and expenditures. As such, library funds, coming primarily from local governments, are heavily dependent upon local tax revenues. Fortunately for libraries, local government tax revenues saw the greatest gains in 1988 at 8.4 percent. This growth rate was higher than the state government growth rate of 6.9 percent and nearly twice the federal government pace of 4.3 percent.

Reinforcing the connection between tax revenues and library spending, there is a close relationship between per capita library spending and per capita tax revenues. Seven of the top ten states in terms of per capita library spending were also among the top ten in terms of per capita tax revenues. Not surprisingly, these states are in the Northeast and the West. The ten states with the lowest per capita spending and tax revenues are primarily in the South.

The outlook for government spending is heavily dependent on the health of the economy. The real rate of growth (adjusting for inflation) of government spending declined steadily from 1985 to 1988. Last year, government spending increased 2.6 percent, well above the previous year's gain of only 0.4 percent.

Over the next several years, spending will grow at a slightly slower pace, averaging one percent annually. Monies spent on libraries represent 0.4 percent of total state and local spending. The percent of total education spending that goes to libraries is 1.4 percent.

State & Local Government Spending on Libraries—1988

	Total ($Millions)	Per capita	Per $1000 personal income
United States	$3501	$14.24	$0.93
Northeast	867	17.14	0.97
Midwest	871	14.55	0.97
South	893	10.55	0.77
West	869	17.15	1.07

Source: *Government Finances in 1987-88*, U.S. Dept. of Commerce

Deborah Selsky is an economist with Cahners Economics, which provides industry analyses and forecasting services for the markets its magazines serve

After showing some signs of slowing down, the library automation marketplace posted another record-high 395 systems installed worldwide

Automated System Marketplace 1990

Focusing on Software Sales and Joint Ventures

By Robert A. Walton & Frank R. Bridge

FOLLOWING A PATTERN of unprecedented growth during the prior three years, the 1989 library automation marketplace showed some signs of slowing down, but still posted another record-high 395 systems installed worldwide. As in prior years, this article reviews and concentrates on the systems that libraries are purchasing, examines automation marketplace themes, and looks for behavioral patterns in special market segments, e.g., software-only sales and the purchase of "joint venture" systems, sold by a union of software and hardware vendors.

The authors have presented (or some would say, continue to fail to present) estimates of the financial stake of library automation vendors. As if to maintain a tradition of years gone by, once again very few library automation vendors provided their revenue information for publication, financial information that would have enabled the authors to better analyze the annual investment that libraries make in library automation. Since most vendors withheld their cooperation in releasing in-

Robert A. Walton is President and Frank R. Bridge is Vice President, Walton Bridge Consulting, Inc., a library technology and management consulting firm based in Austin, Texas

How We Counted Market Share

In reviewing the results of the 1989 marketplace, readers should be aware of the following conventions used during the analysis:

- When the authors determined that vendors had counted libraries sharing a system as multiple automated systems, adjustments were made to maintain consistency.

- Although the use of microcomputers by libraries for circulation, online catalogs, and for technical services activities is important, this article focuses on multiuser integrated library systems. Microcomputer-based systems are not included in the analysis portion of the article.

- In combining prior year totals to the annual 1989 installations presented for 1989, certain vendors' totals for 1989 may look incorrect. It is important to note that the authors adjusted the total installations reported based upon the number of systems installed and the number of systems "removed" from libraries during 1989. Considering how many libraries now are on their second and third automated system, in order for some new systems to be installed, others had to be removed.

formation on revenue sources for publication, this marketplace analysis is based upon a count of the installed systems (whether or not they serve single or multiple libraries).

Some critics have said, "Exclude those vendors who don't release financial data from the next analysis." But then we could only report on four vendors. Not much of an analysis there, so let's take another walk through the annual market share patterns as defined by installations.

Flattening growth? Yes!

In the 1988 marketplace analysis ("Automated System Marketplace 1988: Focused on Fulfilling Commitments," *LJ*, April 1, 1989, p. 41-52), the annual growth of the number of systems slowed from a growth rate of 55 percent during 1987 to 16 percent during 1988. Even though 1989 set another record for total systems installed (with 35 installations more than the 360 systems installed during 1988), the overall annual growth was only nine percent. As the overall marketplace grows larger, the annual percentage of increased installations continues to flatten.

The question must be asked, "Are libraries losing some interest in library automation?" While there is a flattening in the percentage of annual installations growth, there is no evidence to support a slowing trend among institutional library consumers. Regardless of library interest in investing in the use of technology, the current vendor community can only manage to grow and install a defined number of sales each year. Several of the more popular vendors have now hit the practical realities of double-digit growth and expansion: qualified technical staff are more difficult to find, there are too many Request for Proposals to answer, and the coordination problems of too many simultaneous installations expose the company's reputation to increasing risk.

Under these circumstances, most vendors focus on market segments in which they have an advantage and a better track record than their competitors. A few firms have continued to add large numbers of new staff and continue to attack with vigor every sales opportunity. But historic positive user impressions of some of these firms have declined as library staff encounter new vendor faces in every meeting with the vendor staff. Many of the "tried and true" quality controls that were part of the company's early "corporate culture" are more difficult to maintain among newer and less-experienced staff. One firm continues to emphasize sales, but simply places the reality of installation delays on the consumer's shoulders. Should a *decision* be made today to purchase this popular system, the actual *installation* date for the project will be set for the second quarter of 1991, at the earliest. Complications of data conversion, site preparation, or contract negotiations could push it back even further. It leaves it up to the library to decide.

U.S. vs. foreign

Last year, the 1988 analysis identified that one of the major trends in the industry was to open marketing and support offices in Canada, Europe, and the Pacific Rim, emphasiz-

Chart 1A: Worldwide Market Shares Total Installed Systems

(ALL YEARS)

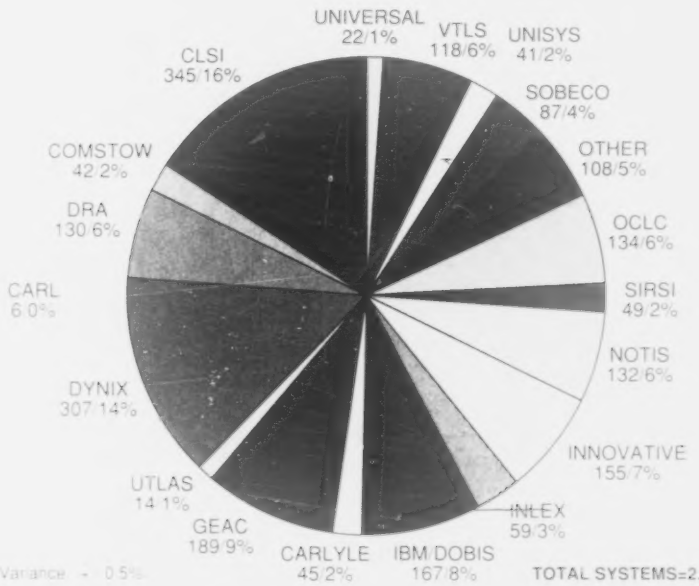
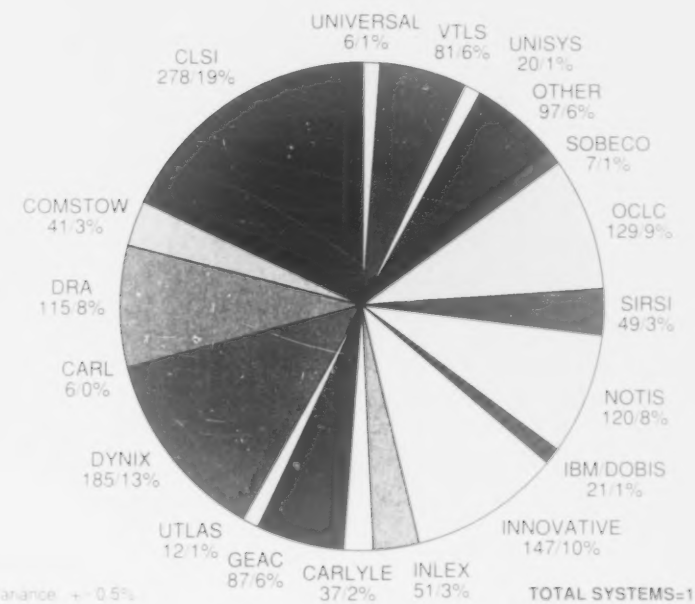


Chart 1B: United States Market Shares Total Installed Systems

(ALL YEARS)



ing expansion in these foreign arenas [see "Australia: Going Online Down Under," p. 62]. Dynix, Inlex, CLSI, VTLS, and others increasingly pushed the sale of automated systems overseas, and foreign-based companies such as Geac and Sobeco (Multi-LIS) continued to try to move into the U.S. marketplace. In looking at the marketplace patterns for 1989, the tremendous growth of the overseas marketplace tends to skew the view of what is happening here at home.

Perhaps the time has come to adjust the view of vendor market shares based upon the location of those installations. Why? Is this another example of American xenophobia or an attempt to perform "foreigner bashing"? No, one of the primary purposes of this annual analysis is to answer the question, "What are my neighbor institutions buying?" For most libraries the use of the term "neighbor" is an expression of interest in what other U.S. institutions are doing, libraries that have similar funding patterns, system maintenance problems, legal precedents, and clientele. But rather than argue the point, this year's analysis presents both market share findings: what happened worldwide and what happened in the United States.

Chart 1A presents the worldwide market shares for total systems installed for all years. Chart 1B presents the U.S. market shares for total installed systems for all years. Considering the large base of installations examined, where a change of even one percent means a difference of a large number of installations, many of the market shares show some shifting patterns. Those vendors whose overall installations are heavily foreign, such as Geac, IBM, and Sobeco, showed smaller total historical market share when looking only at the United States. Geac's 14 percent worldwide market share drops to six percent for U.S. only and Sobeco, a Canadian-based firm, shows a large drop from four percent worldwide to barely one percent in the United States. Perhaps most surprising, while IBM posts a very respectable worldwide base of eight percent, it almost drops off of the chart with only one percent in the United States.

While the difference in worldwide vs. U.S. market share results are predictable for the total historical systems installed, the difference in the results of these two different views is nothing short of dramatic when looking at 1989-only installations. Many impressions of the "bigger" library automation players must now be reexamined. Chart 2A presents the worldwide market shares for systems installed during 1989. Chart 2B presents the United States market shares for systems installed during 1989 only.

In looking at worldwide 1989 installations, Dynix once again shows a clear lead by capturing a 26 percent market share, up over the 21 percent record set by the company in 1988. The world view continues to be strongly focused on Dynix. But, when focusing on the U.S. 1989 marketplace activity, the market share for Dynix drops, to a still very respectable 17 percent U.S.-only market share. What makes this significant is that another vendor, Innova-

Chart 2A: Vendor Worldwide Market Shares for Total Installed Systems

(1988 ONLY)

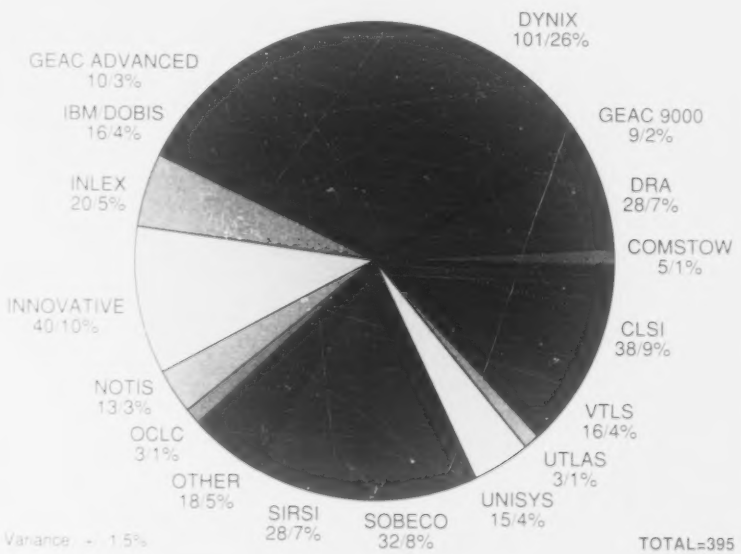
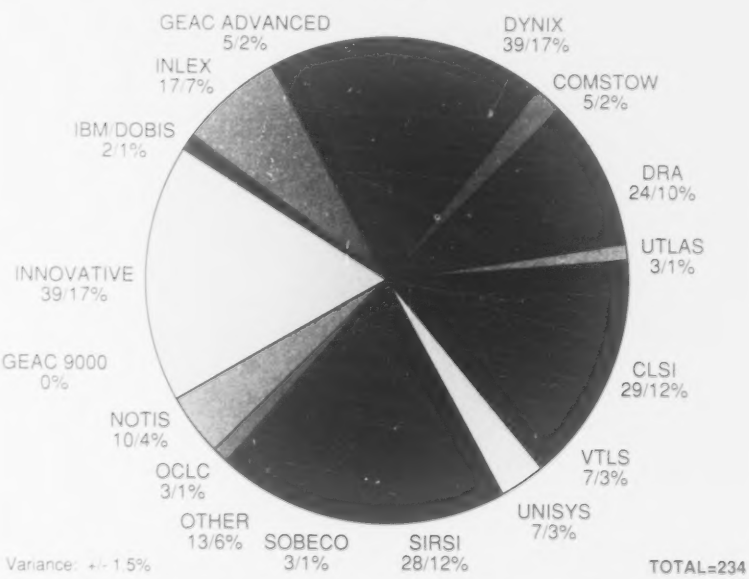


Chart 2B: Vendor United States Market Shares for Total Installed Systems

(1989 ONLY)



tive Interfaces Inc., also posts a U.S.-only market share of 17 percent. For U.S. installations during 1989, there is no longer a clear leader, but instead a dead heat between Dynix and Innovative for first place.

Several other surprises surfaced in breaking out U.S. installations. CLSI, now under new management, stopped licking its wounds resulting from what had been an annual tradition of losses and declining market share and instead posted installations of 12 percent for 1989, up significantly from an all-time low of six percent (worldwide) during 1988. Data Research Associates (DRA) showed much improvement during 1989 in the U.S. marketplace by posting annual installations of ten percent, slightly higher than its worldwide share (which is appropriate given that foreign sales are not really the focus of DRA's marketing efforts).

In looking at the changes that surfaced from the U.S. analysis, Sirsi really jumps out for the first time. Not even appearing as a separate market segment during prior years, Sirsi accelerates into a very respectable market share position in both the worldwide and U.S. market shares. During 1989, "new kid on the block" Sirsi posted annual installations that were almost equal with "elder" CLSI, each company showing a 12 percent U.S. market share. Finally, by analyzing worldwide and U.S. patterns separately, it is clear that Inlex and VTLS compete equally in the worldwide arena, with annual installations of five percent and four percent, respectively. But in the United States, Inlex (seven percent) more than doubled its installations, enabling the company to move ahead of VTLS (three percent) as the dominant, domestic, Hewlett-Packard solution.

Chart 3: Total Worldwide Installations in Academic Libraries

(ALL YEARS)

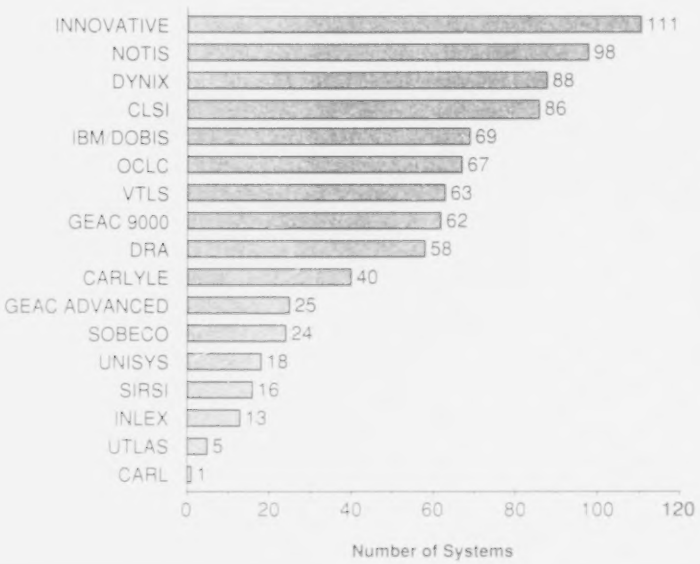
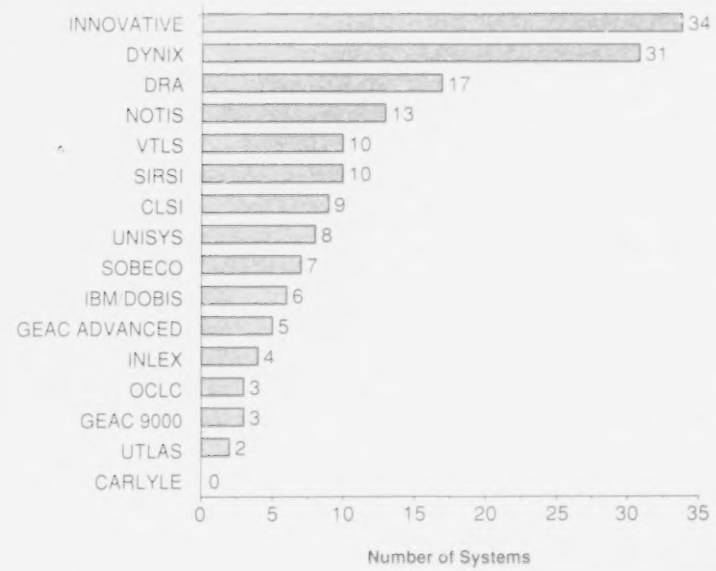


Chart 4: 1989 Worldwide Installations in Academic Libraries



Software-only sales

Libraries are showing increased interest in "software-only" system acquistions. But what is a "software-only"-type sale? Traditionally, libraries have invested in the turnkey automation solution. The turnkey solution draws the analogy from the operation of a car where the consumer simply gets in and "turns the key," not knowing or caring how the car operates or is designed. Similarly, libraries have traditionally attempted to install automated systems that allowed them to "turn on the system," without the necessity of having experienced technical or programming personnel on staff. In the turnkey environment, the vendor selects a hardware platform, develops the software, and sells this system's package to the library with the related installation, training, and maintenance services that are necessary to make the automation project a success. Until recently, almost all of the systems installed in libraries were turnkey solutions.

Marketplace activity in 1989 demonstrated that software-only sales are increasing in popularity. Academic libraries are interested in having their automated library system as an interactive partner on the campus-wide computing network. Public libraries want to link or share their systems for enhanced resource sharing and to incorporate other important "information-oriented" services to the pubic, such as specialized databases and community electronic bulletin boards. Once taboo, the addition of word processing and office automation is a possible alternative due to increased strength and lower computing costs for processing speed

and main memory. Libraries want to see links among their local area networks, allowing users of MS-DOS and Macintosh workstations to communicate interactively with the automated library system.

All of these demands for increased access and control over the automated library system frustrate many industry vendors. Some firms long for the "good ole days" when librarians behaved properly, gently handling the automated system as if it were a precious and fragile technology. This antiquated view of library automation encouraged librarians to fear an "open" system as if they should be in fear that dangerous emissions would spew out if an activist librarian wanted a look inside, or that expecting a system to do more than substitute for the card catalog or check-out books would create "system stress" resulting in years of degraded performance and corrective therapy. As we enter the 1990s, with inexpensive and powerful technologies such as image technology, 4GLs (fourth-generation programming languages), and artificial intelligence, many marketplace offerings and consumer behavior patterns continue to mirror the 1970s when investing in automation was risky and complicated.

Some librarians, however, want more control and influence over their investments in technology. This vision includes the linking of all microcomputers to the integrated library system, the sharing of proprietary CD-ROM database subscriptions by multiple public access workstations, and the creation and offering of home-grown databases for patron consumption. For many libraries, the traditional automated library system will serve as a foundation (rather than the primary focus) for a larger network of information technologies and services.

"But, if you want control of your system, we won't be totally responsible for systems performance and reliability." This is the legitimate rallying cry of much of the vendor marketplace in response to librarians striking at the boundaries of traditional automation services and technologies. If librarians want to gain additional control of what has been a turnkey technology marketplace, so too must librarians take an increased measure of responsibility for system performance, applications demands and resources balancing, and increasingly complex operations supervision. The response of many librarians has been to accept this challenge. By "chipping away the wall" of the closed-system architecture, increasingly the library community seems more accepting of the responsibilities that go with operating in an "open" system environment. Librarians are accepting the challenge.

More vendors are selling software-only licenses to libraries. CARL, Inlex, NOTIS, and VTLS routinely sell their systems as a "joint venture" with the hardware manufacturer upon whose hardware platform their system operates. Both Inlex and VTLS team up with local HP staff to provide a joint hardware and software solution for the library. NOTIS provides its software to operate on an existing IBM mainframe, or will assist the library in working with the local IBM office to configure and install the correct hardware resources to properly operate the NOTIS system. CARL provides its software to operate on Tandem-based hardware platforms. While these vendors may get a "cut" of the profit

Chart 5: Total Worldwide Installations in Public Libraries

(ALL YEARS)

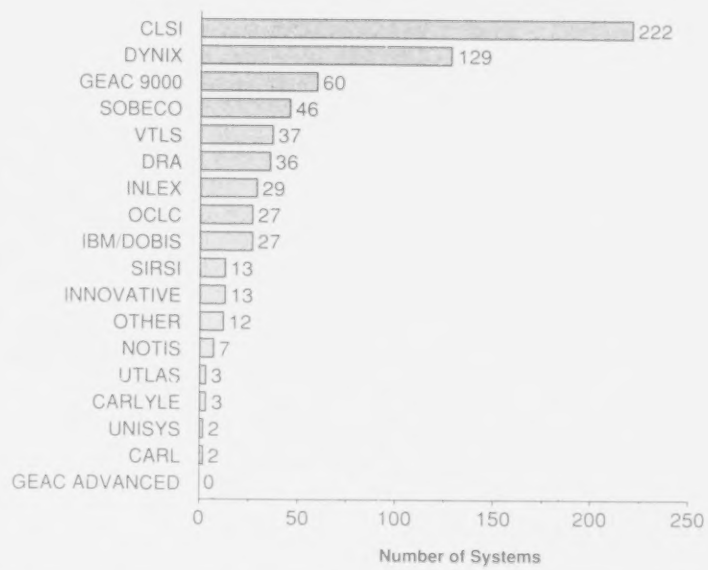


Chart 6: 1989 Worldwide Installations in Public Libraries

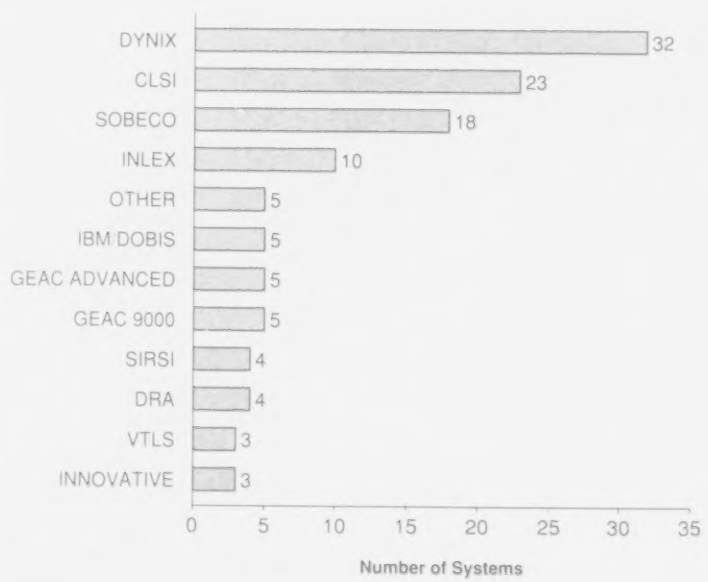


Table 1: Hardware Availability

Manufacturer	Model	Vendor
Altos	2000	CLSI
Amdahl	all	NOTIS
ARIX	all	Innovative Interfaces
	all	Sirsi
C.Itoh	50 through 550	Advanced Libraries
Control Data	Omega series only	NOTIS
	180 series	Information Dimensions
Convergent Technologies all UNIX	Innovative Interfaces	
Data General	MV/XXXX series	OCLC-LS/2000
	S/XXX series	OCLC-LS/2000
Digital Equipment Corp.	microVAX Series	Comstow
		Sobeco/MultiLIS
	PDP 11/XX series	CLSI
	PDP 11/XX series	Georgetown University
	PDP 11/XX series	OCLC-LS/2000
	PDP 11/XX series	Universal Lib. Systems
	VAX series	Advanced Libraries
	VAX series	Comstow
	VAX series	Data Trek
	VAX series	DRA
	VAX series	Gaylord Library Systems
	VAX series	Georgetown University
	VAX series	Information Dimensions
	VAX series	Innovative Interfaces
	VAX series	Sirsi
	VAX series	Sobeco/MultiLIS
	VAX series	Universal Lib. Systems
	VAX series Unix RISC only	Dynix
Formation	400 only	NOTIS
Fujitsu		Advanced Libraries
Geac	6000	Geac
	8000	Geac
	9000	Geac
Hewlett-Packard	3000	Inlex
	3000	VTLS
	9000, under UNIX	Dynix
	9000, under UNIX	Sirsi
Honeywell	DPS/6	Dynix
	DPS/6	Advanced Libraries
IBM	370	Dynix
	937X	Dynix
	30XX series	NOTIS
		Information Dimensions
	309X series	Dynix
		DOBIS
	370 series	NOTIS
		Dynix
	43XX series	DOBIS
		Dynix
		Information Dimensions
		NOTIS
		VTLS
	AS/400	CDMS
		Gateway
		ProData
		NSC
	RT series	Dynix
IBM (continued)	System 3X Gateway	CDMS
		ProData
		NSC
Innovative	INNOVACQ	Innovative
Intel	DPX	Carlyle
Magnuson	all	NOTIS
McDonnel Douglas	any w/PICK oper. system	Advanced Libs.
	Sequel, Spirit	Dynix
MIPS	M/120–M/2000	Sobeco/MultiLIS
	all	Dynix
		Innovative
Motorola Four-Phase	311 & 312 only	NOTIS
Natl. Advanced Systems	all	NOTIS
NCR	Tower 32/200-850	Sirsi
		Sobeco/MultiLIS
Nixdorf	all	NOTIS
Prime	any w/PICK oper. system	Advanced Libs.
	50 series, EXL	Dynix
Sequent	B 21	CLSI
	B 8	CLSI
	S 27	CLSI
	S 81	CLSI
	all	Dynix
Sanyo ICON	3000, 4000	Geac Advanced
Sequoia	any w/PICK oper. system	Advanced Libs.
		Dynix
	Cyclone	Utlas
Tandem	CLX	CARL
		Tacoma PL
		Utlas
	EXT	Utlas
	TNSII	CARL
	TXP	CARL
		Tacoma PL
	VLX	CARL
		Tacoma PL
		Utlas
Ultimate	1400,3000,6000,7000	Dynix
Unisys	1100,2200,PW2,U-Series 5000 series	Unisys
		Dynix
Wang	VS series, exc. 80	Info Dimensions
Wyse	2108	CLSI
	XT,286,386	OCLC-LS/2000

resulting from the hardware sale, they are in the software business and encourage an increased level of responsibility and control by the library consumer.

One vendor who has most successfully made the transition from turnkey-only to providing both turnkey- or software-only alternatives has been DRA. During 1989, DRA indicated that 80 percent of its installations were software-only, a major difference from the activities of other turnkey vendors. Only recently have library consumers been aware that this software-only option is a reality and DRA has been an important leader in this "myth-busting" view. Dynix is increasingly providing a software-only solution, and indicated that 20 percent of its 1989 installations were software-only. DOBIS and Unisys can certainly operate on existing IBM or Unisys hardware platforms respectively, but the surveys indicated that none of the 1989 installations were software-only. Geac continues to show a preference for the turnkey alternative and also indicated that none of the 1989 instal-

lations were software-only. Given this trend, the cases of Innovative and CLSI require some additional examination. These are the two systems that are designed for and operate on the Unix operating system, undoubtedly the most universally accepted "open systems" architecture. Although Innovative had a few installations that were software-only, both firms show a strong preference for the turnkey alternative and contractually prohibit or discourage much of the user interaction with the Unix operating system.

Academic libraries

During 1989, the marketplace saw a large jump in the total number of systems installed in academic libraries in comparison with the number of installations in public libraries that has slowed considerably. The close of the Eighties also saw some obvious and important shifts in the position of academic marketplace leadership. Chart 3 illustrates the worldwide market shares for academic libraries for all years and Chart 4 focuses on the worldwide academic installations for 1989.

Innovative was the big surprise of 1989, capturing the lead position in academic libraries both in worldwide and U.S. installations. Once thought of as a specialist, technical services vendor, Innovative has now pushed NOTIS to second place in total systems installed and passed NOTIS, Dynix, IBM, and DRA for academic installations during 1989. Although Dynix didn't capture first place, the company still posted a large increase in academic installations, primarily in community colleges and junior colleges. DRA strengthened its installations in the academic marketplace during 1989, and due to the company's willingness to provide software-only sales, its competitiveness in the academic market will probably increase.

If a "loser" category had to be identified, it would include NOTIS and IBM/DOBIS. NOTIS suffers from the realities of academic demographics where many of the large Association of Research Libraries institutions have already automated with NOTIS or gone in another direction. Unlike other marketplace vendors, NOTIS appeals primarily to the largest library institutions, those capable of operating a large IBM mainframe–computing environment. Recognizing that the traditional NOTIS target market segment "still to be automated" is fast eroding, NOTIS manage-

Table 2: Operating Systems

System	Release	Vendor
CDC NOS/VE	1.2.1	Information Dimensions
CICS		DOBIS
CICS/VS	1.6	NOTIS
CLSI Proprietary	27.45	CLSI
CMS-1100	SRIA	Unisys
DMS	8R3G	Unisys
EXEC	41R3	
Geos	2.7	Geac
GUARDIAN	90 XF	CARL
	C series	Utlas
	B40, C20	Tacoma Public Library
Hewlett-Packard MPE	5.0+	VTLS
Hewlett-Packard MPE-XL	all	Inlex
	1.2	VTLS
Intel RMXII	3	Carlyle
M/11+-Intersystems	3.X	Georgetown University
MIIS	5.3	LS/2000 (OCLC)
MVS-IBM/370		NOTIS
MVS-IMB/SP		DOBIS
MVS-IBM/TSO	3.7	Information Dimensions
MVS-IBM/XA		DOBIS,NOTIS
MVS/ESA		DOBIS,NOTIS
MVX-Intersystems	3.X	Georgetown University
OS-IBM/VS1		NOTIS
OS/400 [IBM]		Gateway
		ProData
		NSC
		CMDS
OS1100	3R2	Unisys
P/OS	2	CLSI
PICK	1.6	Advanced Libraries
PL/1		DOBIS
PRIMOS [oper. PICK]		Dynix
ULTRIX	3	Innovative Interfaces (3.1)
		Information Dimensions
UNISYS OS/3		Pueblo
UNIX	27.DBMS	CLSI
	27.5	CLSI,Dynix
	System V.3	innovative Interfaces
	5.2	Sobeco/MultiLIS
		Unisys
	System V.3	Carlyle
	System V.3	MultiLIS
	System V.3	Sirsi
	System V.3	Ringgold
UNIX [oper. PICK]		Dynix
VM-IBM [oper. PICK]		Dynix
VM-IBM/CMS		Information Dimensions
VM-IBM/SQL	5.0+VTLS	
VMS [DEC oper. PICK]		Dynix
VMS [DEC]	latest	DRA
	5	Sobeco/MultiLIS
	all	ULISYS
	4.4-5.2	Comstow
	4	Information Dimensions
		DataTrek VMS
		Gaylord-5.2
VSE-IBM	4.X-5.X	DOBIS
	4.X-4.X	Georgetown University
VSE-IBM/DLIB		NOTIS
VSE-IBM/SP		NOTIS 2.1
		DOBIS
Wang VS	6.21.04	Information Dimensions
		NSC
Xenix		Ringgold

ment has initiated an aggressive transition to a medium-sized IBM platform and will begin marketing the NOTIS software to a new medium-sized academic library market. The 1990 marketplace will tell the tale of the impact of this shift in NOTIS's strategic direction.

Public libraries

Few surprises occurred in the public library marketplace. During 1989, CLSI continued its dominant position as leader in worldwide installations with a new total installation base of 222 public libraries, followed by Dynix with 129 public institutions. Dynix maintained its position as the clear favorite vendor of public libraries, posting 32 worldwide installations in 1989. As mentioned earlier, CLSI did reverse the trend of prior years and increased its installations in public libraries during 1989, displacing Sobeco as the second most popular vendor. Inlex also made some progress in edging higher to the top of the heap as one of the more popular vendors to public libraries.

Very small and very large systems

As shown in Chart 7, the major vendors of smaller systems, those having between one and 16 terminals, remained about the same as 1988. Dynix, Sobeco, Innovative, and CLSI maintained the leading positions (worldwide) for smaller systems. When looking at the behavior patterns of the larger systems, those having between 81 and 125 terminals connected, it was surprising to see Dynix take the lead in 1989 installations. Dynix continues to have a reputation of being a "smaller" library vendor, but having installed more than five large systems during 1989 (with no close second place vendor), Dynix may now cast aside that "small vendor" stereotype. Another vendor that has continued to fight the small vendor classification has been Inlex, which posted two large systems installations last year.

Nineteen eighty-nine saw the installation of some very large systems, those with more than 176 terminals installed. As shown in Chart 9, the historic leaders of the very large system have been CLSI, Geac, Utlas, and NOTIS (NOTIS doesn't appear in the chart since they did not complete the "terminal categories" portion of the survey). During 1989, new entries DRA and Dynix each installed two very large systems and Inlex installed one. Posting no 1989 installations were CLSI and Geac.

Vendor profiles

Given that there was a flattening effect in the overall marketplace, how did individual vendors do?

CARL Systems, Inc.

What can you say about CARL? Of all the vendor participants in this marketplace analysis, CARL gets the least fair treatment. Not because of a lack of interest in the CARL system or installations, but because the CARL networking strategy of automation is a different approach from most marketplace players and the analysis emphasis on "installations" hides from view most of the significant accomplishments of the company. Although Chart 1 shows CARL with a marketplace share of less than one percent (six "installations"), these six installed systems serve over 48 libraries and most of these are large libraries with lots of terminals and very large databases. Typical CARL sites support several different libraries,

Australia: Going Online Down Under

By Philip Lloyd & Janette Wright

THE LAND AREA of Australia is 82 percent that of the United States; the population is about six percent (less than New York State). And whilst the market potential for automated library systems in Australia is also about six percent that of the U.S. market, there appear to be as many viable suppliers as in the United States.

Australian historian Geoffrey Blainey's phrase "the tyranny of distance" captures many of the peculiar difficulties of living and doing business in Australia. However, despite the distance and the relatively small population, many Australian businesses have thrived and then taken on the world. While some notable Australian media entrepreneurs have lately faltered and fallen, the library automation marketplace in 1989 reveals stories of steady progress and strong recovery. In this article we provide an update into the activities of some of the Australian products and vendors in 1989.

AWA COMPUTERS: AWA Computers has successfully recovered from the uncertainties that faced both the product, URICA, and the parent company, AWA Ltd., in 1988. AWA Computers' new owners, SGA Pacific (a partnership of Sandersons UK, General Automation Inc., and AWA Computers' management), and the many loyal URICA customers have been rewarded for their solid support of this successful library system. In 1989, over 38 sites were added in the Asian Pacific region, 24 of which were in Australia, taking AWA's total to 100 sites (72 in Australia).

AWA Computers also released SEA-URICA, a new library automation product based on the successful URICA, after very successful installations in Southeast Asia. It enables creation of all MARC formats and allows input and retrieval of Chinese characters.

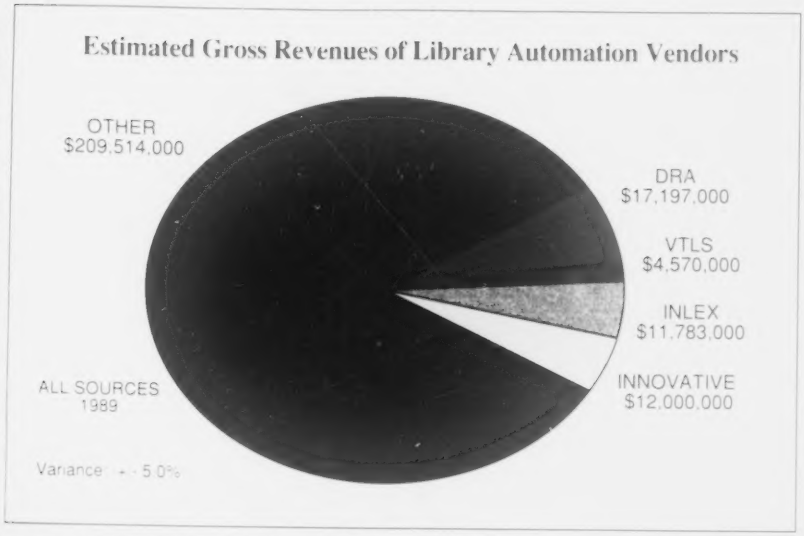
FIRST, an advanced OPAC, was released as an alternative to the OPAC of SEA-URICA. FIRST is distinguished by its sophisticated search tools and includes many powerful features such as enquiries across multiple forms of databases either globally, singly, or in combination.

FIRST and SEA-URICA operate on the generic PICK operating system.

Projects planned for 1990 include the linking of text images for the fine art database at the State Library of New South Wales, the completion of the Apple Macintosh interface to FIRST, and the migration of users from URICA to SEA-URICA.

STOWE COMPUTING AUSTRALIA: With its solid and functional Book Plus product, which runs on the IBM AS/400 series, Stowe steadily increased its installed base by 13 to 47 sites, with particular success in its proven market of public libraries. Book Plus's downloading software that provides an easy and efficient seamless interface to the Australian Bibliographic Network (ABN) was released in 1989. Stowe also affirmed its presence in the European market, with a second significant site in the UK. Stowe is part of one of the largest software houses in Australia that also offers an AS/400 package for local government. Stowe also supports a library package marketed by IBM for the IBM System/36.

VTEC (WANG AUSTRALIA): The uncertainties of operating as a stand-alone software house were removed for VTEC this year when it was wholly acquired by Wang Australia. The product, known as Libman, runs on the Wang VS range and is functionally in the league of the market leaders. It provides a very flexible catalog structure that will give it an edge in many situations. Its total number of sites grew by nine to 24, most of which have eight terminals or less, and are split 2:1 between special and public libraries. Sites are located in Australia, Singapore, Hong Kong, New Zealand, and soon Europe. Projects for completion in 1990 include further development of the OPAC, the statistics module, and the integration of the system with Wang proprietary products.



over 200 connected terminals, and databases in excess of one million (e.g., Denver Public Library, University of Colorado at Boulder, the MARMOT Consortium [17 libraries], and the Montgomery County Library System, Md.). CARL Systems, Inc. has added staff, expanded marketing, and is now a frequent bidder (and winner) of larger automation system projects. Scheduled for installation during 1990 are the Sno-Isle Library System (Wash.) and Northeastern University (Mass.). CARL just doesn't "fit" the way we count vendor performance, but don't think CARL is "small-time." It is the "smaller" vendor serving the "really big" libraries.

Carlyle Systems, Inc.

Carlyle has gone through some tough times during recent years. After surviving the reaction to what was a very disappointing circulation control module and well-publicized financial difficulties, the company has regrouped and started fresh in trying to once again "prove itself." The company has redone the circulation system, which will be based on the Ingres database management system and operate on the Unix software platform. The Carlyle focus for 1990 will be to begin rebuilding customer and library marketplace confidence.

CLSI

CLSI had a good year in 1989. For the first time in several years, the company increased installations of new systems and minimized what has been a sizable, annual erosion of its worldwide market share. While the company continues to be weak in its attractiveness to academic libraries, public libraries continue to invest in the CLSI solution, particularly its circulation system and OPAC. CLSI has designated that 1990 is the "Year of the Customer." Although the authors would hope that every year is the "Year of the Customer," CLSI has recognized and focused in on one of its most vulnerable issues, the need to provide better service and responsiveness to its existing customer base. This emphasis will manifest itself in an increased effort to complete Release 29 and in continuing to improve the Sequent Unix-based software platform.

Data Research Associates (DRA)

As discussed earlier, DRA showed strong market share growth in 1989. This was particularly true in academic libraries where DRA installed 17 systems. During 1989, the company added new marketing and sales staff, providing for expanded contacts with the library community. To date, this increased level of communication has been well received. As shown in the chart above, DRA leads the way in calling for more open disclosure of audited information about the financial stability of major automation vendors. DRA continues to be financially healthy and will remain a prominent marketplace player.

Dynix, Inc.

Once again Dynix proved that its growth could continue. As Dynix leads the pack each year, the company also becomes a popular target for negative comments by its competitors, particularly about the variety of hardware platforms supported by Dynix and its overseas marketing efforts. Rather than respond to these negative comments, Dynix continues to keep eyes focused forward and concentrates on expanding its installations in ever-growing number, type, and size of libraries. During 1989, Dynix expanded its use of hardware platforms by installing systems on HP, Sequoia, and IBM RT hardware platforms. (An attempt was made to operate on Tandem, but due to less-than-adequate cost performance, a shift was made to Sequoia.) Scheduled for 1990 will be a new release of serials control and the implementation of a French-language version to support the company's growing foreign client base.

Gaylord Information Systems

A new entry, some would say a return entry, to the 1989 marketplace is Gay-

AUSTRALIAN LIBRARY AUTOMATION MARKETPLACE

DATAPOINT: Datapoint's fully functional product, Data*Library, has this year extended from its base of public libraries to special libraries, including Shell in the UK. There are now seven Data*Library sites, including the Sydney Opera House's Library and Archives of the Performing Arts. Datapoint has also completed its downline loading module for copying from ABN or CD-ROM. Nonetheless, a quiet year of reassessment and gradual progress; plans for 1990 include conversion of the software to MS-DOS.

ICL AUSTRALIA: Nineteen eighty-nine was the birth-year of ICL's new library product ICL Library, with one public library site installed. The system that operates under Unix has added MARC cataloging and MARC load from tape. Further development of this product is continuing and already provides a natural complement to ICL's local government software. This will be a product to watch given ICL's international presence.

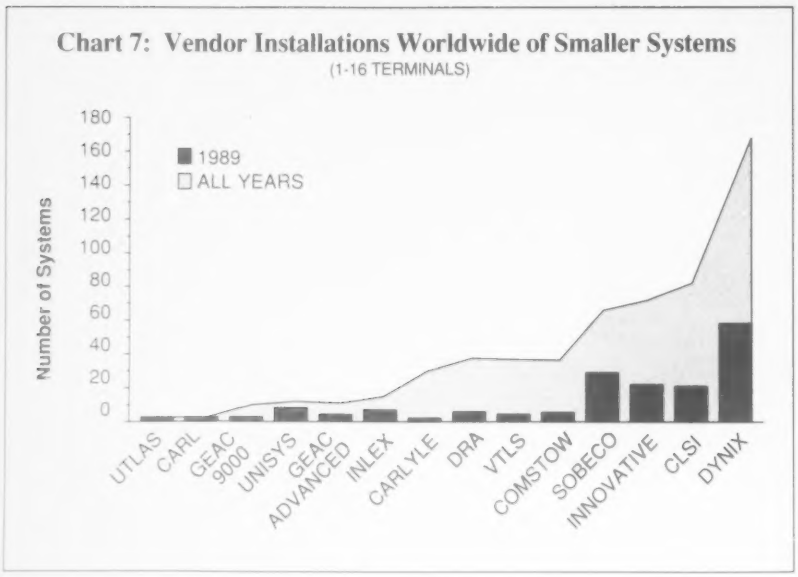
ICL also has Library 39 that has its roots in an earlier version of the Stowe "Book" package and has been developed for the ICL 39 series of processor. It is installed at four sites.

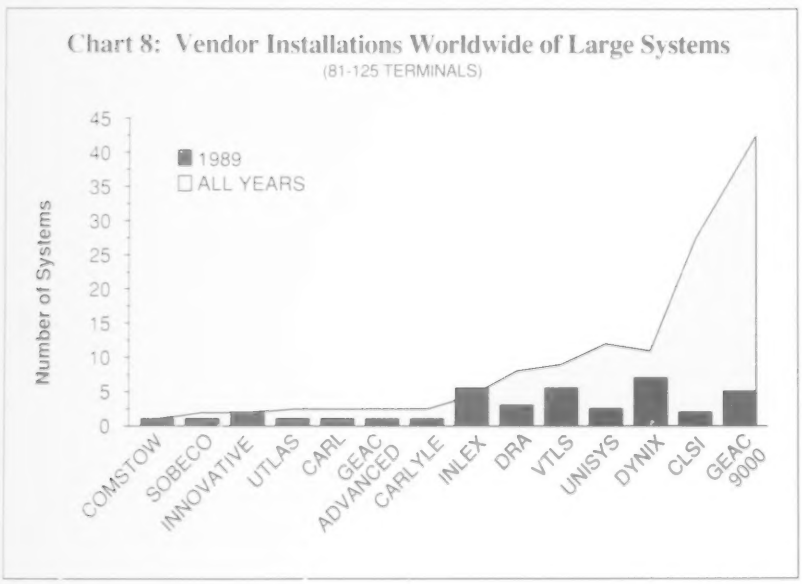
Systems for small libraries: With the success of PC operating systems such as PICK and Xenix and multiuser networks, the distinction between micro- and minicomputer systems is effectively lost. Thus the small system suppliers are of interest to all those responsible for small libraries. Australia has its share of these suppliers, the most successful of which is **SOFTLINK AUSTRALIA.** In 1989 its MS-DOS-based Alarm/Oasis package was installed in over 150 new sites, taking its overall total to 470 systems. The system can be successfully networked, the largest site comprising nine dedicated terminals. Thirty sites are special libraries, the rest are schools.

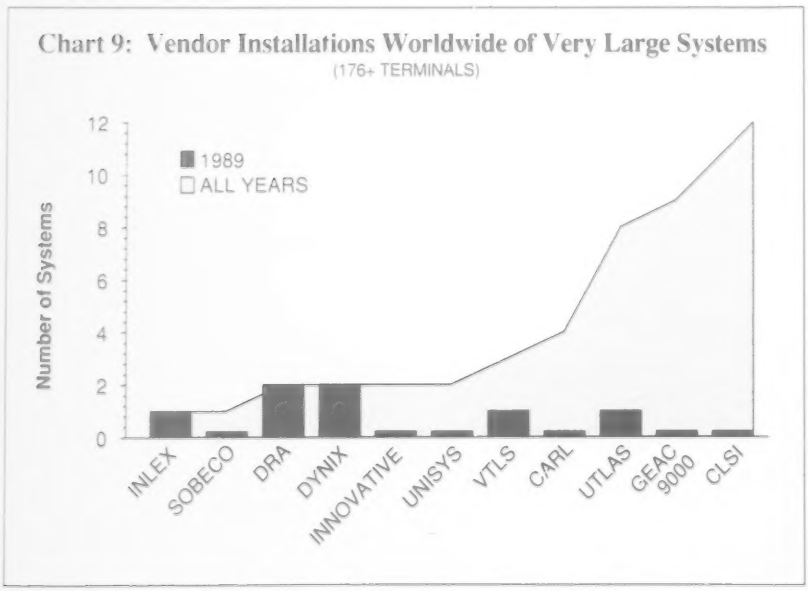
CONCORD DATA SYSTEMS added 31 sites in 1989, taking its total to 45; its package is called Aims/Opal and runs under MS-DOS or Xenix/Unix.

Lothlorien Software with **LOTHLORIEN** has 38 sites running on MS-DOS and PC-MOS (multiuser DOS). Lothlorien's plans for 1990 include the development of software for heuristic indexing.

Philip Lloyd and Janette Wright are directors of Lloyd Wright Pty. Ltd., an independent Australian consultancy that specializes in marketing and management of information and information services. Both have backgrounds in management and marketing of library automation systems







lord Information Systems. Gaylord's new local system called Galaxy is based on the DEC Model 3100 computer system. Since the software operates on standard DEC VMS, the new system promises to be of interest to the "DEC junkie" automation librarians, of which there are many. Not much more can be said for this new player, except that the 1990 analysis will expose the reaction of libraries to a new product from one of the oldest and most-trusted vendors in the library profession.

GEAC Computer Corporation Ltd.

Geac was another player in 1989, a year that may become known for "comebacks." First, CLSI regained lost ground in market share and then there was the reappearance of Carlyle. Perhaps the best "turnaround" news of all is that Geac has regained financial control and exited 1989 in the black, at least financially. This can be attibuted largely to the purchase of Advanced Libraries & Information, Inc. (formerly ALII) products, now called the Geac Advanced System. As shown throughout the marketplace analysis, the Geac 9000 series system continued to be poorly received by U.S. libraries, and posted only modest sales abroad. But, the Geac Advanced System (based on the PICK operating system) is fast gaining popularity and holds the greatest promise of continued market share growth and financial stability for the library automation division of Geac.

IBM/DOBIS

The DOBIS product continues to be confusing (and sometimes troublesome) for many libraries. The company has had very little success marketing the software system in the United States. For example, during 1989 DOBIS was installed in 16 new sites, but only two of these were in the United States. Most of those installed were in Europe, Asia, and Australia, markets where IBM has much more marketing and support muscle than other library automation vendors. IBM responds to very few open-procurement offerings, preferring to place its system using a sole-source sales strategy. Since most libraries do not use this procurement method, the improved growth of DOBIS as a major library automation system in the United States remains weak, some would say very weak.

Inlex

Inlex had its best year ever in 1989. Installations for this period increased 30 percent over 1988 systems installed, far ahead of the business plan set by Inlex for this period. Important to note is that most of these installations, 17 out of a total of 20, were in the United States, making Inlex a clear competitor to Dynix and Innovative in the small to medium academic and public library markets. As noted earlier, Inlex installed two systems during 1989 that had more than 80 terminals, breaking another common library automation myth that Inlex is only for the smaller library. Being a "newer" vendor, Inlex must perform the normal ritual of swimming upstream against the efforts of more established competitors. According to libraries installing systems in 1989, Inlex seems to be doing just fine. Much of this success can be

attributed to the fact that Inlex continued the difficult process of expanding its software offerings, by releasing the acquisitions module, full LC MARC authority load software, and Boolean searching. Plans for 1990 include the release of a reserve book room module and an Information & Referral subsystem.

Innovative

Innovative Interfaces, Inc. (they prefer to be called "Innovative") had its best year ever. Particularly when you examine 1989 installations in the United States (Chart 2B), Innovative tied Dynix with 39 systems installed. What makes this particularly impressive is that Innovative is a much smaller company than Dynix (with 40 FTEs compared to Dynix's 230 FTEs), and yet its success in the United States is quite impressive. It is also important to note that this large jump in installations doesn't even include the addition of 16 online catalog systems installed (a separate product called INNOPAC) at sites that were already operating the technical services product (called INNOVACQ). Because of its popularity, the Innovative installation schedule has been extended well into 1991 and it will be interesting to see how the company handles this extreme growth and whether libraries are willing to wait in line. So far, getting in line is exactly what libraries are doing, no matter how long the wait.

NOTIS

NOTIS continues to be the system of choice for the majority of ARL libraries, which turns out to be both a blessing and a curse. The obvious blessing is that NOTIS remains prominent as a system for the academic community, fitting well into the campus network and centralized computer center environment. The curse is that some day, NOTIS may run out of ARL libraries. For this reason, NOTIS is poised and ready to introduce a new mid-range NOTIS system, called KeyNOTIS, for small to medium-sized academic libraries. At press time, NOTIS has scheduled a briefing for automation consultants and other gurus, so most likely the new NOTIS system will receive much attention in the 1990 library automation marketplace analysis. During 1989, NOTIS introduced a new software option, the Multiple Database Access System (MDAS), which permits installations to mount databases from MEDLINE, H.W. Wilson, and Compendex Plus. As one of the open software architectures mentioned earlier, NOTIS will be one of the companies to lead the march to more open and flexible library automation solutions.

OCLC Local Systems

During 1989, OCLC retreated from the marketing of the OCLC LS/2000 product line. In reviewing the results of the marketplace survey provided by OCLC, most of the activity of the Local Systems Division was focused on the sale and support of the SC350 serials control system, which is not the primary focus of this article. Now that OCLC has focused on providing lower-end, microcomputer-based library automation services and products, 1990 will be a better measure of whether this historic library automation leader will continue to be a player in this analysis.

Sirsi

Another major surprise in 1989 was the Sirsi system, a relative newcomer to the major league marketplace. Sirsi is a Unix-based system that has been traditionally perceived as an automation alternative for smaller special libraries. No more! During 1989, Sirsi had 28 installations, with ten installed in academic libraries and 13 in public school systems. In looking at Sirsi's historic installed base, however, the product is used almost equally by public, academic, and school libraries. The company's installation success caught many competitors off guard and is another example of success based upon the introduction of an open, software-only library automation solution. During 1990, the company will turn back to the basics by upgrading the acquisitions, online catalog, and circulation modules to enable it to be even more competitive in the mainstream library automation marketplace.

Sobeco/MultiLIS

Although some marketing has taken place in the United States, Sobeco remains primarily a Canadian vendor focused on providing software solutions to Canadian libraries. During 1989, out of 32 installations for the year, only three systems were installed in the United States (and all of those were on the East Coast). Sobeco will probably continue to modestly offer its system in the United States, but its primary focus will be to continue its expansion in Canada and to move into the European marketplace.

Table 3: System Interfaces

Vendor	OCLC	RLIN	WLN	Utlas	Biblio-File	Auto-graphics	Marcive	Baker & Taylor	Laser-Quest	Brodart	Other Interface
CARL	✓	✓		✓	✓	✓		✓	✓	✓	Mini-Marc
Carlyle	✓	✓	✓		✓				✓		
CLSI	✓	✓	✓	✓	✓	✓	✓(tape)	✓(tape)		✓	LSSI; PICA (tape)
Comstow	✓	✓	✓	✓	✓		✓				
Data Research	✓	✓	✓	✓	✓	✓	✓	✓		✓	
Data Trek	✓	✓			✓		✓	✓	✓	✓	MITINET
DOBIS	✓	✓	✓		✓						
Dynix	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N LaserCat; LSSI;Gaylord Super
Gaylord								✓			
Geac	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Geac Adv.	✓	✓	✓		✓	✓		✓	✓	✓	
Georgetown	✓										
Info Dimensions	✓	✓		✓	✓		✓	✓		✓	
Inlex	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Innovative	✓	✓	✓	✓	✓						
NOTIS	✓	✓		✓		✓	✓	✓	✓	✓	
OCLC (LS/2000)	✓										
Ringgold	✓										
Sirsi	✓		✓	✓		✓	✓	✓	✓	✓	Super Cat
Sobeco	✓			✓	✓			✓	✓	✓	SDM
Tacoma PL	✓		✓		✓						
Unisys	✓	✓	✓	✓	✓	✓		✓			
ULISYS	✓	✓	✓	✓	✓	✓		✓		✓	Natl. Lib. Canada
Utlas	✓	✓	✓	✓	✓	✓	✓	✓		✓	
VTLS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Gaylord SuperCat

Tape = data transfer via magnetic tape load only; not an interactive, online interface

Table 4: Size of Installations

Vendor	Smallest Library Installed		Largest Library Installed	
	Terminals	Titles	Terminals	Titles
CARL	88	200,000	920+	4,200,000
Carlyle	1	36,000	132	1,400,000
CLSI	5	18,190	300	875,000
Comstow	2	5,000	Undefined	400,000
Data Research Assocs.	5	20,000	500+	1,400,000
DOBIS	3	50,000	1,000+	2,000,000+
Dynix	1	4,700	334	800,000
Geac	3	30,000	254	2,100,000
Geac Advanced	2	55,000	165	1,200,000
Inlex	4	6,000	180	300,000
Innovative Interfaces	2	5,000	230	1,500,000
NOTIS	10	16,000	1,300	5,400,000
Sirsi	2	3,000	70	355,000
Sobeco/MultiLIS	2	3,000	250	2,000,000
Unisys	1	3,000	900+	1,650,000
Universal Lib. Systems	8	52,379	238	587,576
Utlas	18	80,000	225	3,000,000
VTLS	4	6,500	200	5,000,000

Unisys

Unisys continues to market its library automation system, called PALS, almost equally in the United States and abroad. While installations in academic libraries were impressive for 1989 (15 systems installed), over half of these were installed in Europe and the Far East. But the PALS system is gaining in both general name recognition and acceptance as a mainstream alternative for academic libraries. Nineteen ninety will be a telling year for the Unisys commitment to this product in the United States.

VTLS

While Inlex was demonstrating its ability to establish strong growth in the United States, VTLS found greatest acceptance as the HP-based system of choice for foreign locations. Of the 16 VTLS systems installed during 1989, nine were installed in Europe and abroad. But VTLS remains determined to provide an expanded menu of products to enable growth both domestically and abroad. During 1989, the company announced a new library automation product called "Marcus," designed for operation on mid-range IBM computers, and released VTLS-89 that allows OPAC users to navigate to a CD-ROM system for searching. As with several other vendors, 1989 was another steady year for VTLS.

Source List

Advanced Libraries & Information, Inc.
(see Geac)

Brodart Library Automation Div.
500 Arch St.
Williamsport, PA 17705
800-233-8467

CARL Systems Inc.
777 Grant St., Suite 304
Denver, CO 80203
303-861-5319
FAX 303-830-0103

Carlyle Systems, Inc.
5750 Hollis St.
Emeryville, CA 94608
415-428-3900
FAX 415-654-0464

CLSI, Inc.
320 Nevada St.
Newtonville, MA 02160
800-365-0085
617-965-6310
FAX 617-969-1928

Columbia Computing Svcs.
8101 E. Prentice Ave.
Suite 700
Englewood, CO 80111-2911
800-663-0544
FAX 303-773-9630

Computer Management & Development Services (CMDS)
PO Box 1184
Harrisburg, VA 22801
800-999-2637
FAX 703-432-5275

Comstow Info Svcs.
249 Ayer Rd., PO Box 277
Harvard MA 01451-0277
508-772-2001

Data Research Assocs., Inc.
PO Box 8495
1276 N. Warson Rd.
St. Louis, MO 63132-1806
US 800-325-0888
Canada 800-331-3515
FAX 314-994-8927

Data Trek, Inc.
5838 Edison Place
Carlsbad, CA 92008
800-876-5484
619-431-8400
FAX 619-431-8448

Dynix, Inc.
151 E. 1700 S.
Provo, UT 84606
800-288-8020
801-375-2770
FAX 801-373-1889

EBSCO Subscription Svcs.
PO Box 1943
Birmingham, AL 35201
205-991-6600

F.W. Faxon Company
15 Southwest Park
Westwood, MA 02090
617-329-3350

Follett Software Company
809 N. Front St.
McHenry, IL 60050
800-323-3397
815-344-8700
FAX 815-344-8774

Gateway Software Corp.
1645 Ave. D
Billings, MT 59102
406-256-9716
800-359-3641

Gaylord Brothers Library Automation
PO Box 4901
Syracuse, NY 13221
800-634-6304
315-457-5070
FAX 315-457-8387

Geac Computers, Inc.
11 Allstate Parkway,
Suite 300
Markham, Ontario
Canada L3R 1B3
416-475-0525
FAX 416-475-3847

General Research Corp.
5383 Hollister Ave.
PO Box 6770
Santa Barbara, CA 96130
800-235-6788

Georgetown University Medical Center
Dahlgren Memorial Library
3900 Reservoir Rd. NW
Washington, DC 20007
202-687-1035
FAX 202-687-1862

IBM (DOBIS) Library Marketing
472 Wheelers Farms Rd.
Milford, CT 06460
203-783-7350
FAX 203-788-7636

Information Access Corp.
11 Davis Dr.
Belmont, CA 94002
415-591-2333

Information Dimensions
655 Metro Place S., Suite 500
Dublin, OH 43017-1396
800-DATA-MGT
614-761-7446
FAX 614-761-7290

Inlex, Inc.
1900 Garden Rd., Suite 200
PO Box 1349
Monterey, CA 93940
800-553-1202
408-646-9666
FAX 408-646-0651

Innovative Interfaces
2344 Sixth St.
Berkeley, CA 94710
800-444-2344
415-644-3600
FAX 415-644-3650

Library Corp. of America
(The Intelligent Catalog)
Research Park
Inwood, WV 25428
800-624-0559
304-229-0100
FAX 304-229-0295

MultiLIS Corporation
505 Rene-Levesque Blvd. W.
Montreal, Quebec
Canada H2Z 1Y7
514-878-9090
FAX 514-878-2673

NSC, Inc.
428 W. Ryan St.
Brillion, WI 54110
800-624-5720
FAX 414-756-2359

NOTIS Systems, Inc.
1007 Church St., 2d fl.
Evanston, IL 60201-3622
708-866-0150
FAX 708-866-0178

OCLC, Inc. (LC/2000)
Local Systems Division
6565 Frantz Rd.
Dublin, OH 43017
800-848-5878
614-764-6000
FAX 614-764-0723

ProData Computer Svcs.
9290 W. Dodge Rd., #406
Omaha, NE 68114
402-399-9997
800-228-6318
FAX 402-399-8249

Ringgold Management Systems, Inc.
PO Box 368
Beaverton, OR 97075-0368
503-645-3502
FAX 503-690-6642

Sedna Corporation
PO Box 22436
Minneapolis, MN 55422
612-535-2326

Sirsi Corporation
2904 Westcorp Blvd.
Suite 209
Huntsville, AL 35805
205-536-5881
FAX 205-536-8345

Sobeco Group
(see MultiLIS Corp.)

Tacoma Public Library
1102 Tacoma Ave. S.
Tacoma, WA 98402
206-591-5606
FAX 206-591-5470

ULISYS Software Group
Suite 225-L
18 Gostick Place
North Vancouver, BC
Canada V7M 3G3
604-987-0588

Unisys
PO Box 500
MS/B140
Blue Bell, PA 19424
215-986-4061
FAX 215-986-6230

Universal Library Systems
(see ULISYS Software Group)

Utlas International Canada
80 Bloor St. W., 2d fl.
Toronto, Ontario
Canada M5S 2V1
800-268-0982
416-923-0890
FAX 416-923-0935

UTLAS Internat. U.S., Inc.
8300 College Blvd.
Overland Park, KS 66210
800-33-UTLAS
913-451-3111
FAX 913-451-2551

VTLS, Inc.
1800 Kraft Dr.
Blacksburg, VA 24060
800-HOT-VTLS
703-953-3605
FAX 703-231-3648

Winnebago Software Co.
310 W. Main St.
PO Box 430
Caledonia, MN 55921
800-533-5430
507-724-5411
FAX 507-724-5411

CALENDAR

Connecticut Library Association Annual Conference, New Hampshire conference/exposition, Montana LA Conference

APRIL

10-11—The Connecticut Library Association Annual Conference, Treadway Hartford Hotel, Cromwell. Theme: "Capital Ideas for Connecticut Libraries." Contact: Peter Chase, Plainville PL, 203-793-0221; or Maxine Bleiweis, Lucy Robbins Welles Lib., 203-666-9350.

14-16—The New Hampshire Library Association Annual Conference and Exposition, Waterville Valley. Theme: "The Library as Cultural Center." Contact: Sharon Woodman, Nashua Public Library, 2 Court St., Nashua, NH 03060; 603-883-4141.

22-25—Montana Library Association Conference, Heritage Inn, Great Falls. Theme: "Images of Service." Contact: Gwen Carter, Great Falls Public Library, 301 2d Ave. N., Great Falls, MT 59401-2593.

24-27—Alabama Library Association, Perdito Beach Hilton, Orange Beach. Theme: "Cajun Kaleidoscope: Look What's Cooking on the Coast." Guest speaker: Justin Wilson, Cajun cook and author. Contact: Mary Ann Johnson, 307 N. Summit St., Fairhope, AL 36532; 205-460-7043.

25-27—Wisconsin Association of Academic Librarians Annual Conference, Concourse Hotel, Madison. Theme: "Capitalizing on the Future: Challenges and Opportunities for Academic Librarians." Contact: Lois Komai or Jean Gilbertson, University of Wisconsin, Steenbock Library, 550 Babcock Dr., Madison, WI 53706; 608-263-6373.

25-28—New Jersey Library Association Spring Conference, Meadowlands Hilton, Secaucus. Theme: "Libraries: Endless Possibilities." Contact: Cynthia Czesak, Clifton Public Library, 292 Piaget Ave., Clifton, NJ 07011.

MAY

2-5—The Mountain Plains Library Assocation/Utah Library Association Joint Conference, Red Lion Hotel, Salt Lake City. Theme: "The Best for the Patron." Three program tracks available: "Understanding the Clientele," "Organizational/Professional Development," and "Service Vitality." Contact: Merna Smith, Salt Lake City Public Library, 209 E. Fifth S., Salt Lake City, UT 84111; 801-363-5733.

4-6—University of South Florida Seminar on International and Comparative Librarianship, Tampa. Conducted by Dr. John A. McCrossan. Those who register for credit must also attend a second Session in June. Contact: Holly Hill, School of Library and Information Science, HMS 301, University of South Florida, Tampa, FL 33620-8300; 813-974-3520.

6-18—Library Administrators Development Program Twenty-Fourth Annual Session, Universtiy of Maryland. Director: Dr. John Rizzo, Professor of Management, Western Michgan University. Sessions will concentrate on the principal administrative issues for senior managers, strategic planning and management by objectives, leadership, employee motivation, individual and group decision making, performance appraisal, conflict management, financial planning and analysis, marketing, and managing change. Contact: Rosemary Miller, Administrative Assistant, Library Administrators Development Program, College of Library and Information Services, University of Maryland, College Park, MD 20742; 301-454-6080.

8-10—New York Home Video Show, New York Passenger Ship Terminal. Exposition and seminar program for producers, distributors, mass merchandisers, and retailers of home video programs. Contact: Debbie Rotolo, Knowledge Industry Pubns., 701 Westchester Ave., White Plains, NY 10604; 914-328-9157 or 800-248-KIPI.

NATIONAL/ INTERNATIONAL

American Association of Law Libraries: Minneapolis, Jun. 16-21; New Orleans, Jul. 21-24, 1991.

American LA: Chicago, Jun. 23-28; Atlanta, Jun. 29-Jul. 4, 1991. **Midwinter:** Chicago, Jan. 12-17, 1991.

American Theological LA: Evanston, Ill., Jun. 25-30.

Canadian LA: Ottawa, Ontario, Jun. 13-17.

Church and Synagogue LA: Portland, Oreg., Jul. 1-3.

Integrated Online Library Systems '90: Sheraton Centre, New York, May 2-3.

International Association for Social Science Information Service and Technology: Poughkeepsie, N.Y., May 30-Jun. 3.

International Conference of Judaica and Israeli Librarians: Jerusalem Jul. 3-5.

International Federation of Library Associations and Institutions: Stockholm, Sweden, Aug. 18-24.

Medical LA: Detroit, May 18-24.

National Library Week: Apr. 22-28.

Sixth National Bookmobile Conference: Columbus, Ohio, Jun. 3-5.

Special LA: Pittsburgh, Jun. 9-14.

White House Conference on Library and Information Services: Washington, D.C., Jul. 9-13, 1991.

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